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### **Title 23: Highways**

#### **PART 627 – Value Engineering**

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**Authority:** 23 U.S.C. 106(d), 106(f), 112(b), 302, 307, and 315; 49 CFR 18.

**Source:** 62 FR 6868, Feb. 14, 1997, unless otherwise noted.

##### **§ 627.1 Purpose and applicability.**

(a) This regulation will establish a program to improve project quality, reduce project costs, foster innovation, eliminate unnecessary and costly design elements and ensure efficient investments by requiring the application of value engineering (VE) to all Federal-aid highway projects on the National Highway System (NHS) with an estimated cost of \$25 million or more.

(b) In accordance with the Federal-State relationship established under the Federal-aid highway program, State transportation departments (STDs) shall assure that a VE analysis had been performed on all applicable projects and the all resulting, approved recommendations are incorporated into the plans; specifications and estimate.

[62 FR 6868, Feb. 14, 1997, as amended at 67 FR 75924, Dec. 10, 2002]

##### **§ 627.3 Definitions.**

*Project.* A portion of a highway that a State proposes to construct, reconstruct, or improve as described in the preliminary design report or applicable environmental document. A project may consist of several contracts or phases over several years.

*Value engineering.* The systematic application of recognized techniques by a multi-disciplined team to indentify the function of a product or service, establish a worth for that function, generate alternatives through the use of creative thinking, and provide the needed functions to accomplish the original purpose of the project, reliably, and at the lowest life-cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project.

##### **§ 627.5 General principles and procedures.**

(a) *State VE programs.* State transportation departments must establish programs to assure that VE studies are performed on all Federal-aid highway projects on the NHS with an estimated costs of \$25 million or more. Program procedures should provide for the identification of

candidate projects for VE studies early in the development of the State's multi-year Statewide Transportation Improvement Program.

(1) *Project selection.* The program may, at the State's discretion, establish specific criteria and guidelines for selecting other highway projects for VE Studies.

(2) *Studies.* Value engineering studies shall follow the widely recognized systematic problem-solving analysis process that is used throughout private industry and governmental agencies. Studies must be performed using multi-disciplined teams of individuals not personally involved in the design of the project. Study teams should consist of a team leader and individuals from different speciality areas, such as design, construction, environment, planning, maintenance, right-of-way, and other areas depending upon the type of project being reviewed. Individuals from the public and other agencies may also be included on the team when their inclusion is found to be in the public interest.

(i) Each team leader should be trained and knowledgeable in VE techniques and be able to serve as the coordinator and facilitator of the team.

(ii) Studies should be employed as early as possible in the project development or design process so that accepted VE recommendations can be implemented without delaying the progress of the project.

(iii) Studies should conclude with a formal report outlining the study team's recommendations for improving the project and reducing its overall cost.

(3) *Recommendations.* The program should include procedures to approve or reject recommendations and ensure the prompt review of VE recommendations by staff offices whose speciality areas are implicated in proposed changes and by offices responsible for implementing accepted recommendations. Reviews by these offices should be performed promptly to minimize delays to the project.

(4) *Incentives.* The program may include a VE or cost reduction incentive clause in an STD's standard specifications or project special provisions that allows construction contractors to submit change proposals and share the resulting cost savings with the STD.

(5) *Monitoring.* The program should include procedures for monitoring the implementation of VE study team recommendations and VE change proposal recommendations submitted by construction contractors.

(b) *State VE coordinators.* Individuals knowledgeable in VE shall be assigned responsibilities to coordinate and monitor the STD's program and be actively involved in all phases of the program.

(c) *Use of consultants.* Consultants or firms with experience in VE may be retained by STDs to conduct the studies of Federal-aid highway projects or elements of Federal-aid highway projects required under §627.1(a) of this part. Consultants or firms should not be retained to conduct

studies of their own designs unless they maintain separate and distinct organizational separation of their VE and design sections.

(d) *Funding eligibility.* The cost of performing VE studies is project related and is, therefore, eligible for reimbursement with Federal-aid highway funds at the appropriate pro-rata share for the project studied.

(e) In the case of a Federal-aid design-build project meeting the project criteria in 23 CFR 627.1(a), the STDs shall fulfill the value engineering analysis requirement by performing a value engineering analysis prior to the release of the Request for Proposals document.

[62 FR 6868, Feb. 14, 1997, as amended at 67 FR 75924, Dec. 10, 2002]